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From Dr Van Somm

July. 45

MEMOIR

ON THE

SPONTANEOUS EXPULSION AND ARTIFICIAL EXTRACTION OF THE PLACENTA BEFORE THE CHILD IN PLACENTAL PRESENTATIONS.

BY

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PART I.

Section I.—Dangers of Placental Presentations[1]—Opinions of Authors—Statistical Evidence of the Fatality of these Presentations.

All obstetric authors seem to agree on this point, that there is no one complication in midwifery attended with more anxiety to the practitioner, and few, if any, with more real danger to the patient, than cases of unavoidable hemorrhage from presentation of the placenta.[2]

"Placental presentations," says Dr F. Ramsbotham, "are always fraught with extreme peril."[3] "The attachment of the placenta," observes Dr Collins,[4] "to the mouth of the womb, is one of the most dangerous complications to be met with in midwifery." "There are few dangers," to quote the words of Dr Edward Rigby,[5] "connected with the practice of midwifery, which

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[1] The substance of the following memoir was, on the 4th December 1844, laid before the Medico-Chirurgical Society of Edinburgh. Since that time a number of additional cases have been incorporated into the essay, and the deductions altered in a corresponding degree.

[2] "During the last months of gestation, and at the commencement of labour, patients," observes Dr Churchill, "are exposed to *two* forms of hemorrhage, differing in their causes, but depending upon the *situation* of the placenta. The first has been called 'accidental hemorrhage,' because it arises from a partial and accidental separation of the placenta, which occupies its *usual* situation; and the second is justly termed 'unavoidable hemorrhage,' because the placenta being placed partially or wholly over the os uteri, the dilatation of this will *unavoidably* separate the after-birth, and give rise to hemorrhage."—*Theory and Practice of Midwifery*, p. 383. Our investigations in the present memoir refer to the last of these two forms of uterine hemorrhage.

[3] Obstetric Medicine and Surgery, 2d edition, p. 391.

[4] Practical Observations on Midwifery, p. 90.

[5] System of Midwifery, p. 248.

are more deservedly dreaded, and which are wont to come more unexpectedly, both to the patient as well as to the practitioner, than that species of hemorrhage which occurs in cases where the placenta is implanted, either centrally or partially, over the os uteri." "It is," says Dr Dewees,[1] "confessed on all hands, that no accident attendant on conception is equally menacing, as unavoidable hemorrhage; and it also emphatically declares to the physician, that much depends on him, that it shall not be very often fatal. It is one," he adds, "of those extraordinary cases, in which nature does less for the preservation of the individual than in almost any other." "That form of hemorrhage," remarks Madame Lachapelle,[2] "which depends upon the implantation of the placenta upon the internal orifice of the uterus, is one of the most dangerous accidents to which pregnant women are exposed." "It is perhaps," long ago observed Deleurye,[3] "of all labours, that in which the mother and the child run the greatest danger." Still earlier, La Motte states,[4] that "amongst all the accidents of child-birth, there is not any one more perilous *(il n'y en a point un plus perileux)* than that in which the after-birth presents before the child."

The actual results of practice fully bear out the observations which I have selected from the preceding authors upon the danger of unavoidable hemorrhage from placental presentation. My friend Dr Churchill, in his late excellent work upon the *Theory and Practice of Midwifery*, has collected in it from different sources the records of 174 cases of this complication. Amongst these 174 cases, 48 proved fatal to the mothers; or nearly one in every three of them died. I have attempted to make a still more extensive analysis of recorded cases of placenta prævia, or placental presentation, and the consequences of this complication as bearing on the life of the mother. The following table shows the results of the inquiry:—

Table of Maternal Mortality in Placental Presentations.

Reporters.	No. of Cases.	Mothers Lost.
Mauriceau,[5]	17	3
Giffard,[6]	24	7
Smellie,[7]	17	3
Carry forward,	58	13

[1] System of Midwifery, p. 390.

[2] Pratique des Accouchemens, tom. iv., p. 362. [4] Traité des Accouchemens, p. 36.

[3] Traité Complet des Accouchemens, p. 404.

[5] Observations sur la Grossesse et les Accouchemens, vol. ii., pp. 8, 48, &c. &c.; and Edinburgh Medical and Surgical Journal, vol. li., pp. 383–4.

[6] Cases in Midwifery, pp. 22, 36, 38, 52, 87, &c. &c.

[7] Collection of Cases, &c., vol. ii. pp. 307–315; and vol. iii., pp. 141–178. I have, with Dr Churchill and others, here and in a subsequent table, marked all those cases of

Reporters.	No. of Cases.	Mothers Lost.
Brought forward,	58	13
Rigby,[1]	42	11
Clarke[2] and Collins,[3]	15	3
Busch,[4]	13	2
Schweighauser,[5]	64	16
Lachapelle,[6]	16	10
J. Ramsbotham,[7]	19	8
F. Ramsbotham,[8]	44	8
Lever,[9]	14	2
Lee,[10]	38	14
Wilson,[11]	26	10
London Maternity Charity,[12]	50	33
Total,	399	133

From the above Table, it thus appears that out of 399 cases of placental presentations which are collected into it, the result was fatal to the mother in 133 instances, or, in other words, *one in every three of the mothers perished in connection with this complication.*

The dangers of placental presentations to the mothers may appear stronger to some minds, if I state it in other terms. Two of the most fatal epidemics of modern times, are yellow fever, and Indian or malignant cholera. In the well-known yellow fever of Gibraltar, of 1828, the mortality among those attacked was nearly 1 in $4\frac{1}{2}$.[13] In 1832–33, about one in $3\frac{1}{2}$ of those affected in England with the epidemic cholera, died.[14] Hence those mothers who are the subjects of placental presentations, are submitted to as great peril of life from this obstetric complication, as they would be, if seized with yellow fever or malignant cholera. Further, the operation of lithotomy is generally regarded as one of the most formidable in surgery, and is calculated to be fatal in the proportion

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Dr Smellie's as recoveries, where an opposite result is not directly stated. The context seems to warrant this.

[1] An Essay on Uterine Hemorrhage, 6th Edition, p. 262.

[2] Transactions of King and Queen's College of Physicians, vol. i., p. 380.

[3] Practical Observations in Midwifery, p. 96. The returns of Drs Clarke and Collins are classed together, as both coming from the Dublin Lying-in Hospital.

[4] Forbes' British and Foreign Review, vol. v., p. 587.

[5] La Pratique des Accouchemens, p. 224.

[6] Pratique des Accouchemens, tom. ii., pp. 415–461.

[7] Practical Observations in Midwifery, part ii. pp., 195–233.

[8] Principles of Obstetric Medicine and Surgery, 2d Edition, pp. 395–6.

[9] Guy's Hospital Reports, vol. vi., p. 66.

[10] Lectures on the Theory and Practice of Midwifery, p. 371.

[11] From MS. notes of Dr Wilson, formerly Lecturer on Midwifery, and deservedly one of the most highly esteemed and distinguished obstetric practitioners in Glasgow. Many of the fatal cases were instances which Dr W. saw in consultation.

[12] London Medical Gazette, for July 19, 1844.

[13] Out of 5383 persons attacked, 1183 died.—See *Researches on the Yellow Fever of Gibraltar,* by Dr Louis of Paris. Boston, 1839. P. 259.

[14] Dr Merriman has calculated, from official returns, that 49,594 individuals were affected with epidemic cholera, in England, and that 14,807 of them died, giving the proportion in the text. In Scotland and England, the mortality was greater. See *Medico-Chirurgical Transactions,* vol. xxvii., p. 416.

of 1 in every 6 or 8 subjected to it.[1] The occurrence of placenta prævia is twice as dangerous and fatal as the operation of lithotomy,—1 in every 3 perishing under the first, and 1 in every 6 or 8 perishing under the last.

Looking at these results, it will, we believe, be readily conceded, that any attempt—such as is the professed object of the present memoir—to diminish this fearful maternal mortality in placenta prævia, is entitled, at least, to the consideration of the obstetric profession, even should it fail to be so fortunate as to secure their concurrence and conviction.

SECTION II.—RECOGNIZED PRINCIPLES OF TREATMENT:—1. EVACUATION OF THE LIQUOR AMNII; AND, 2. DELIVERY BY TURNING. PROPOSAL OF A THIRD PRINCIPLE—THE COMPLETE SEPARATION OF THE PLACENTA—GROUNDS FOR PROPOSING IT—ILLUSTRATIVE CASES.

Hitherto, two great principles of treatment,—if we leave out the minor details of management,—may be said to have been pursued by obstetric practitioners, in the treatment of placental presentations. And the two modes of practice I allude to are supposed by many to be applicable to two different stages or degrees of the complication. They consist of the two following measures:

1. *The Evacuation of the Liquor Amnii.*

In some cases of placenta prævia, and under some circumstances, the artificial evacuation of the liquor amnii is recommended to be had recourse to, and thus the same treatment is followed for "unavoidable" hemorrhage, as is followed by most practitioners in instances of "accidental" hemorrhage. This mode of practice has been especially applied of late to cases in which the presentation of the placenta was only *partial*, and where, consequently, a portion of the membranes was within reach, and to instances in which the hemorrhage was comparatively slight in its degree and effects. About a century and a half ago, the same treatment seems to have been employed also by some practitioners, in instances in which the placenta presented completely over the os uteri, the placental structure being perforated artificially with the finger or an instrument, in order to permit the liquor amnii to escape. After recommending, that in placenta prævia, the membranes should be pierced, or the fingers thrust through the placenta, "that at last it be perforated, and instead of the constant flux of blood which appeared before, the humours will presently flow out," Daventer,[2] writing about the year 1700, adds, "some pene-

[1] "The average mortality from lithotomy, on all hands, appears at present to be about one in eight."—Dr Willis' *Urinary Diseases*, 1838: p. 347. Mr Inman has calculated the mortality from lithotomy to be 1 in every $7\frac{3}{4}$ cases, 765 patients having died out of 5900 operations which he had collected.—See *Lancet* for October 5, 1844.

[2] The Art of Midwifery Improved. London: 1715. Pp. 153-4.

trate the secundines with a *hair needle*,[1] which I do not approve of, if it can be done with the fingers, because the infant is easily hurt." Under some conditions in placenta prævia, Deleurye[2] recommends the piercing of the placenta with a trocar, in order to allow the liquor amnii to be drained off. Baudelocque[3] speaks of the same practice as probably useful in instances of complete or central presentation of the placenta, when the cervix will not allow of turning; and in later years, the same plan has been again proposed by the elder Dr Ramsbotham,[4] and successfully put in practice by Gendrin[5] of Paris.

2. *The Delivery of the Child by Turning.*

In the generality of cases of unavoidable hemorrhage from placental presentation, the practice which is adopted consists in forcing the delivery by passing the hand through the os uteri up to the feet of the infant, and extracting the child by the operation of podalic turning. This last mode of practice is the one universally followed when the hemorrhage is very severe, and whether the artificial evacuation of the liquor amnii has preceded it or not, and it is the plan of treatment usually pursued where the presentation of the placenta over the os uteri is central or entire. By some accoucheurs indeed, as Drs Burns and Hamilton, Baudelocque, Capuron, and others, the forcible delivery of the woman by the operation of turning, is the *only* mode of treatment that is thought advisable under any circumstanees in connection with *placenta prævia*. It is, according to Plenck, "nullo remedio sed sola extractione fœtus curanda."[6] "All the best practical writers are," says Dr Merriman, "unanimous on this point, that the case of placenta adhering over the cervix uteri, is not to be trusted to nature. In all cases of attachment of the placenta over the os uteri, it is incumbent upon the accoucheur to make up his mind to the operation of turning the child, and bringing it into the world by the feet."[7] "This is a case," Dr Conquest remarks,[8] "in which we ought never to confide in the powers of nature, because expulsatory uterine efforts only augment the peril of the patient; and therefore the hand must be either bored through the substance, or, what is better, passed by the edge of the placenta, and the child turned." It is completely established, (to quote the words of Dr Dewees,)[9] "that the only chance the woman has for life, is by a well-timed

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[1] "Placentam vel secundinam *acu crinali* perfodiunt,"—to quote the original Latin. See p. 138 of the second edition of Daventer's *Novum Lumen, &c.* Leyden: 1733. The first edition was published in 1701.

[2] Traité des Accouchemens. Paris, 1777, p. 369.

[3] System of Midwifery, translated by Heath, vol. ii., p. 38.

[4] Practical Observations, part ii. p. 189.

[5] Traité Philos. de Médecine Pratique, tom. ii., 548.

[6] Elementa Artis Obstetricæ, 1781, p. 133.

[7] Synopsis, &c. of Difficult Parturition, 1826, pp. 126–7.

[8] Outlines of Midwifery, p. 157.

[9] System of Midwifery, p. 394.

and well-conducted delivery in every case of placental presentation." When hemorrhage," says Dr Denman,[1] "from this cause, (placental presentation,) comes on, though all women without proper assistance would not die, none are free from danger till they are delivered. As there is a very doubtful chance of the delivery by the pains of labour, and as experience has fully proved the frequent insufficiency of all other methods intended to suppress the hemorrhage, and how little reliance ought to be placed on them, though they are always to be tried; it is a practice established by high and multiplied authority, and sanctioned by success, to deliver women by art, in all cases of dangerous hemorrhage, without confiding in the resources of the constitution. This practice is no longer a matter of partial opinion, on the propriety of which we may think ourselves *at liberty* to debate; it has for near two centuries met the consent and approbation of every practitioner of judgment and reputation in this and many other countries. (See Mauriceau and almost every succeeding writer.)"

Cases of Placenta Prævia not unfrequently occur in practice in which neither of the two preceding plans can be successfully adopted,—where the artifical evacuation of the liquor amnii is insufficient to moderate the hemorrhage to a safe degree,—and where forced delivery by turning is inapplicable or extremely dangerous if adopted. In these and other cases, I would beg to submit to my obstetric brethren, an additional principle of treatment, viz.

3. *The Complete Separation, and, if necessary, Extraction of the Placenta before the Child.*

I shall first state the grounds on which I venture to found the propriety of this proposed addition to the treatment of the very anxious and very dangerous cases of which we speak.

Obstetric pathologists seem unanimous in the opinion that all the more formidable varieties of hemorrhage, which occur from the uterus in the latter months of utero-gestation, or the earlier periods of labour, are attributable to the separation of the vascular connections between the placenta and the interior of the uterus, and the escape of blood from the vessels which are laid open in consequence of this separation.

Paradoxical as it may appear, there are sufficient grounds and facts for believing, that when the placenta is separated slightly and partially, the chance of fatal hemorrhage to the mother is greater than when the disunion of the organ is entire and complete. Various authors have detailed cases in which the death of the mother speedily took place though the portion of the placenta separated from the uterus was exceedingly small. Thus Dr

[1] Introduction to Midwifery, p. 527.

Hamilton mentions that in several cases which had fallen under his observation, and where he was called too late to afford proper assistance, it was discovered that the fatal hemorrhage had proceeded from the separation of "a very small portion of the placenta." In one instance of fatal hemorrhage between the 7th and 8th month of utero-gestation, he found on dissection that "the area of the separated placenta was less than a square inch."[1]

On the other hand I believe I have collected a sufficient number of data to prove that when the disjunction of the placenta from the uterus is *perfect* and *complete*, the degree of maternal hemorrhage that occurs is in general exceedingly slight and trifling, or it is altogether arrested. The details of a few cases may illustrate and impress the fact which I wish to point out.

Case of Placenta Prævia; placenta expelled upwards of three hours before the child; no hemorrhage in the interval; child removed by decapitation and extraction.—In 1840 I was requested by my friend Dr Graham Weir to see a patient about the 5th month of pregnancy, who had been attacked with very severe hemorrhage. It was her third or fourth pregnancy. After the flooding had continued for some time, the placenta was expelled. *From the time of its expulsion the hemorrhage ceased.* The shoulder and neck of the infant were presenting over the os uteri. The os uteri was so contracted and the whole organ so small, as to prevent the possibility of the introduction of the hand for the operation of turning. At my suggestion, Dr Weir severed the neck of the infant. Its body was then easily extracted by pulling at the presenting arm; and its head was immediately afterwards expelled by the unassisted action of the uterus. From three to four hours elapsed between the protrusion of the placenta and the complete delivery of the woman, yet during that time she lost little or no blood, and her recovery was speedy and perfect.—*See subsequent General Table, Case No.* 16.

Case of Placenta expelled about two hours before the child; elbow of the child presenting.—In 1841 I was requested by Dr Lewins of Leith to visit a case of complicated unavoidable hemorrhage. I saw the patient shortly after 9 o'clock in the morning. Labour pains had come on about 4, and a considerable degree of hemorrhage had accompanied them. Shortly after 7 o'clock, Dr Lewins, on visiting the patient, found the placenta expelled through the os uteri. When I saw the woman, nearly two hours afterwards, the placental mass was lying between her thighs, and attached to her by the umbilical cord. She was weak from the hemorrhage that had occurred previous to the expulsion of the placenta, but from the time that organ had been extruded, *the flooding had almost*

[1] Practical Observations, 2nd edition, p. 314.

entirely ceased. I found the elbow of the child presenting; and as the os uteri was well dilated, it was easy to bring down a lower extremity, and terminate the labour. The patient recovered without a bad symptom.—*See Table, No.* 20.

Case of placenta expelled some minutes before the child; no intervening hemorrhage; child expelled by natural pains, and revived.—For the details of this case I am indebted to Dr Dewar, of Dunfermline, and shall give the circumstances in his own graphic words. "Some blood," he says, "had been lost as nearly as we could calculate at what would have been the seventh and eighth menstrual periods, and several times between the eighth and ninth months, and that in spite of an entire cessation from all exercise. Labour took place at the full time, and, as was dreaded, was accompanied with severe hemorrhage from the beginning. When I saw her, about an hour after pain had begun, the orifice of the uterus was pretty well dilated, and a soft spongy mass, apparently the centre of the placenta, protruded from it. There was no time for interference, for almost instantly a strong pain forcibly expelled the whole of the placenta from the vagina. *To my surprise the flooding ceased.* Pains continued active, and the child was born in less than ten minutes. After a little time the infant revived, and the mother recovered well, though considerably exhausted."—*See Table, No.* 48.

Case of great hemorrhage, and expulsion of the placenta under strong uterine action; child extracted by turning some hours afterwards.—Mrs H., during her second pregnancy, (her first child having been premature), had a slight flooding about the seventh month. When in the eighth month, labour commenced early in the morning of the 18th May, with slight pains, and sanguineous discharge. These continued more or less severely till the evening of the 19th, when, as Mrs H. was resting upon her knees and elbows, an immense gush took place, along with an unusually strong pain. Immediately afterwards, on being laid down, the placenta was found protruding from the external parts. The attendant midwife immediately sent off to a distance of several miles for two medical gentlemen, who arrived about half-past one o'clock on the morning of the 20th. In the mean time, the hemorrhage was inconsiderable. The medical men attempted to turn, and deliver the child, but encountered great difficulties in doing so, the head having remained fixed in the pelvis for an hour or two after the body was born. The recovery was tedious. The patient (now one of the most respected and intelligent midwives in Edinburgh) has had three children since the above period.—*See Table, Case No.* 2.

Case of unavoidable hemorrhage terminated by the expulsion of the placenta; child allowed to be delivered by the natural pains.—"About half-past six in the morning of April 29th, 1818, a messenger,"

says Dr Ramsbotham, "arrived at my house, sent by two medical gentlemen, with a note to this purport: 'We are in attendance upon Mrs H., whose situation is involved in great uncertainty, from a placental presentation; the bleeding is going on pretty actively, and we wish for your immediate opinion.' On my arrival at the house of the lady, about eight, I was told by one of the gentlemen, "that since the note was sent off, some strong expulsive pains had come on, which had expelled the placenta through the external parts before the head of the child, and that it was lying upon the bed. That before this occurrence the hemorrhage had been violent, yet not to that extent as apparently to endanger the woman's life; but that since the appearance of the placenta *the flooding had very much abated.*' During our conversation on this unusual occurrence, the gentleman more immediately in attendance, who, at my arrival, was in the bed-room of his patient, came down stairs, and reported, 'that the head was presenting at the brim of the pelvis, with a hand down by its side; that there was no want of uterine action; *that the flooding had ceased;* and that his patient did not seem much exhausted.' An appeal was now made to my opinion, as to the further management of the case, to which I replied, 'that as the flooding (the most dangerous symptom) had abated, as the labour-pains continued active, and especially as the woman's strength kept up, there did not appear to be an immediate necessity for a recourse to any means for hastening delivery; watch your patient for a short time, and wait the result: if the flooding should return, or if any dangerous symptom make its appearance, let us know.' In about half an hour after this interview, the gentleman returned with a cheerful countenance, and stated, that the child was expelled without further loss of blood, and that his patient was promising to do extremely well." &c.—*Practical Observations*, case 154, part ii., p. 229.

Case of placenta gradually coming down, during the labour, into the os uteri, and being at last expelled four hours before the child; with no intermediate hemorrhage.—Mrs C., in the eighth month of her second pregnancy, was taken in labour on Sunday evening, about nine o'clock. Mr Chapman was called to her about twelve o'clock. He was informed the membranes had been ruptured for some time. The os uteri was dilated to the size of a crown-piece, and the head presenting, but still very high. The pains were very strong and regular. On a second examination, an edge of the placenta was discovered "beginning to protrude through the os uteri," with a hemorrhage which was trifling, but increased upon the return of the pains, though still so inconsiderable as not to be directly alarming. Mr C. did not hence conceive himself justified in proceeding to immediate delivery. But as upon every return of pain the placenta became more and more protruded through the os uteri, without the head advancing, the advice of another prac-

titioner was sought. Previous, however, to his arrival, the pains proved so strong that the os uteri became dilated, and the placenta was completely expelled through the os externum, about three o'clock on Monday morning, with very little hemorrhage. From this moment the pain entirely ceased. The other practitioner did not arrive until five o'clock. "*There had not*," to use Mr Chapman's own words, "*been the least hemorrhage since the expulsion of the placenta.*" It was now resolved to turn the child; but after two prolonged attempts the feet could not be seized, the uterus being spasmodically contracted in the longitudinal direction, and the circular fibres appearing to act without the consent of the longitudinal. "During the whole of this time the hemorrhage had not in the least increased." Twelve drops of the tincture of opium were now administered. In a very short time the patient became easy and comfortable; and in less than half an hour the natural pains returned, and speedily expelled the child, with the head and arm presenting. Nothing remarkable happened in the convalescence, except a trifling attack of phlegmasia dolens, an affection from which the patient had likewise suffered after her first labour.—*See Table, No.* 13.

Case of placental and shoulder presentation; placenta expelled; turning.—The patient, in the sixth month of her fifteenth pregnancy, was attacked with a hemorrhage that was alarming in extent, but not so great in quantity as to produce syncope. "I saw her," Dr Ramsbotham writes, "two hours after the first attack of flooding. The placenta was now lying completely in the vagina, *and there was not the least hemorrhage.* The membranes were ruptured. The shoulder of the child presented. The cervix uteri was unexpanded and rigid, and it was consequently impossible to get my whole hand into the uterine cavity, but I succeeded into the ham of the infant, and was by this means enabled to turn and deliver." "An hour or more" elapsed between the complete detachment of the placenta and the birth of the child. It had been dead for some time. The mother recovered perfectly.—*See General Table, Case No.* 26.

Case of placental and arm presentation; placenta in the vagina, and without hemorrhage, for about eight hours before the child was born.—In a woman who had completed the full time of pregnancy, Dr Macaulay found the placenta expelled from the uterus, and lying in the vagina. She had been flooding previously, but it had ceased about eight o'clock in the morning of the 13th February 1816. The late distinguished Dr Kellie of Leith visited the patient along with him. The woman peremptorily refused to allow Drs Macaulay and Kellie to deliver her. About four o'clock P.M. the pains quickened, the placenta was expelled out of the vagina, and about half an hour afterwards an anencephalous infant followed. The child was in every way well shaped, except as regarded the head.

" Dr Kellie told me," to quote the note which Dr Macaulay made at the time, " that the head was the smallest he had ever seen, and remarked, that though it was an axiom in midwifery, that when the placenta was implanted over the os uteri, hemorrhage *must* continue till the uterus was emptied, *yet here it stopped as soon as the placenta came down.*"—*See Table, No.* 10.

SECTION III.—TABLE OF 141 CASES OF EXPULSION AND EXTRACTION OF THE PLACENTA BEFORE THE CHILD—ARRANGEMENT AND DIVISIONS OF THE TABLE.

I have been able to find upon record fifty-six cases of Placental Presentation in which the placental mass was expelled before the child, as in the preceding seven or eight instances which I have brought forward in the last section. Through the kindness of my professional friends, I have collated the notes of seventy-four additional unpublished instances in which the same accident happened. As the entire detail of more instances than those I have already stated would, at the present stage of our inquiries, only swell out our pages, without any corresponding advantage, I have deemed it better to throw the principal facts, connected with all the cases which I have collated, into a tabular form, in order to present thus in a more concise manner their general features and individual peculiarities. It is only necessary to premise, in regard to the following table, that under the heads referring to the degree of hemorrhage before and after the separation of the placenta, and the time or interval between the expulsion of the placenta, and expulsion of the child, I have as nearly as possible adhered to the identical words used by the reporters themselves, in each case. The table commences with those instances in which the interval between the birth of the placenta and the birth of the child was longest, and progressively proceeds to those in which this interval became shorter and shorter, till at last we come to a set of cases in which the placenta and infant were expelled simultaneously.

For the purpose of assisting in some subsequent deductions, the table is split up into the four following divisions.

1*st Division.*—Cases in which a considerable interval—varying from ten minutes to ten hours or upwards—elapsed between the expulsion of the placenta and the birth of the child, including the forty-seven instances standing at the head of the table.

2*d Division.*—Cases (comprehending those from No. 48 to No. 71) in which the intervening interval was shorter.

3*d Division.*—Cases (running from No. 72 to No. 101) in which the child was born immediately after the extrusion of the placenta, or expelled along with it.

4*th Division.*—Cases, from No. 102 onwards, in which the period intervening between the expulsion of the placenta and child is not specified by the reporters, though the context shows that in many of this class the interval was evidently considerable.

GENERAL TABULAR VIEW OF ONE HUNDRED AND FORTY-

THE PLACENTA PRECEDED

FIRST

Cases in which a Considerable Interval (from 10 Hours to 10 Minutes)

	By whom observed or reported.	No. of the pregnancy.	Period of delivery.	Degree of hemorrhage *before* the entire separation of the placenta.	Degree of hemorrhage *after* the entire separation of the placenta.	Mode of delivery of the child.
1	Dr Collins, Dublin.	...	9th month.	...	...	...
2	J. Y. Simpson.	2d.	8th ,,	Excessive.	Inconsiderable.	Turning.
3	Mr Cripps, Liverpool.	3d.	9th ,,	A good deal.	None.	Turning.
4	Dr Merriman, London.	...	...	...	...	By natural pains.
5	Mr Hewitt, Earlston.	...	...	Little or none.	...	By natural pains.
6	Dr J. Ramsbotham.	...	...	...	Little.	Turning.
7	Dr Newman, Glasgow.	...	9th month.	Great.	None.	By natural pains.
8	Baudelocque.	...	...	...	...	...
9	Walter.	...	...	{ Almost none, (not 2 oz. in all.) }	Almost none.	Turning.
10	Dr Macaulay, Edinburgh.	Not 1st.	Full time.	Great.	None.	By natural pains.
11	Velpeau.	...	...	None.	None.	...
12	Mr Perfect.	...	...	Slight.	Slight.	Turning.
13	Mr Small, Wemyss.	7th.	7th month.	Very great.	Very trifling.	By natural pains.
14	Mr Chapman.	4th.	8th ,,	Slight.	Very slight.	By natural pains.
15	Dr Radford, Manchester.	9th.	9th ,,	Very great.	Quite arrested.	Long Forceps.
16	Mr Sidebottom, ditto.	7th.	9th ,,	Profuse.	Ceased.	By natural pains.
17	J.Y. Simpson.	3d or 4th	5th ,,	Great.	None.	Decapitation.
18	Dr Radford, Manchester.	7th.	9th ,,	Very considerable.	Quite arrested.	By natural pains.
19	Dr Ingleby, Birmingham.	Several.	9th ,,	Not very great.	None.	Turning.
20	Mr Bailey, Thetford.	...	7th ,,	Profuse.	...	Turning.
21	J. Y. Simpson.	...	7th ,,	Not great.	None.	Turning.
22	J. Y. Simpson.	6th.	7th and 8th.	Very great.	None.	By natural pains.
23	Dr Todd, Colinsburgh.	Several.	8th ,,	Not alarming.	...	...
24	Dr Fraser, Aberdeen.	1st.	9th ,,	Moderate.	Scarcely any.	Turning.
25	Dr Radford, Manchester.	3d.	9th ,,	Very profuse.	Quite arrested.	By natural pains.
26	Dr Gardiner, Glasgow.	1st.	9th ,,	Very great.	None.	By natural pains.
27	Dr F. Ramsbotham.	15th.	6th ,,	Alarming.	Not the least.	Turning.
28	Professor Gendrin.	2d.	8½ months.	None during labour.	None.	By natural pains.
29	Mr Wood, Manchester.	8th.	9th ,,	Very great.	Quite stopped.	By natural pains.
30	Dr Campbell, Edinburgh.	1st.	8th ,,	Little.	...	...
31	Dr Gardiner, Dundee.	1st.	7th ,,	Moderate.	Very slight.	By natural pains.
32	Mr Hay, Glasgow.	1st.	9th ,,	Excessive.	Very little.	Naturally.
33	Dr Ingleby, Birmingham.	9th.	5th ,,	Great.	None.	Turning.
34	Dr Irvine, Pitlochy.	10th.	9th ,,	None.	None.	Extraction.
35	Dr Young, Glasgow.	1st.	6th and 7th.	Very great.	None.	By natural pains.
36	Dr John Ramsbotham.	...	...	Violent.	Soon ceased.	By natural pains.
37	Dr Todd, Colinsburgh.	Several.	...	Not great.	...	...
38	Dr Radford, Manchester.	5th.	8th month.	Very great.	Quite arrested.	By natural pains.
39	Dr Wharrie, Hamilton.	9th.	8th to 9th.	Considerable.	None.	By natural pains.
40	Mr Dorrington, Manchest.	7th.	9th month.	Great.	None.	By natural pains.
41	Dr Forbes, Kennoway.	4th.	9th ,,	Very great.	{ None of any consequence. }	Forceps.
42	Dr Millar, Kilmarnock.	1st.	7th ,,	Great, 6 lbs. in 2 days.	Slight oozing.	Turning.

REMARKS.

4. See details under Section VI.
5. Mr H. was sent for on account of the expulsion of the placenta, nothing unusual having occurred beforehand. He was some miles distant, but arrived just before the child was born. There was little or no hemorrhage.
8. "A midwife had extracted the placenta some hours before, and had been unable to turn the child, whose arm presented with the head. The uterus was strongly contracted on the child, and discharged but a few drops of blood."
9. See details under Section VI.
10. See Case under Section II.
11. See Section V.
14. "In this case, very little more blood was lost than women usually do, when the placenta is expelled in the usual manner."
15. "In this case, the expulsatory efforts were energetic to the time of accomplishing the separation and expulsion of the placenta, when they ceased. No hemorrhage occurring afterwards, it was deemed advisable to wait the 4 hours."
18. "The hemorrhage being arrested, there was no need to interfere, further than to adopt those measures which are necessary to support the vital powers."
19. "The placenta had been expelled nearly through the os externum. A large quantity--nine-tenths, I should say—had been cut off with a pair of scissars. I saw the case very soon afterwards; passed my hand, and delivered the child, and then removed the small bit of placenta and membranes."

ONE CASES, IN WHICH THE EXPULSION OR EXTRACTION OF THE BIRTH OF THE CHILD.

DIVISION.

ELAPSED BETWEEN THE EXPULSION OF THE PLACENTA AND THE BIRTH OF THE CHILD.

Time between birth of placenta and birth of child.	Presentation of the child.	Results.		Where reported, or by whom communicated.
		To mother.	To child.	
Evening before.	Foot.	Recovered.	Dead.	" Practical Observations," p. 192.
Several hours.	...	Recovered.	Dead.	See Case of Mrs H., in Section II.
10 hours.	Arm.	Recovered.	Dead.	Communicated by Mr Cripps.
Many hours.	...	Died.	...	Synopsis, p. 126.
A considerable time.	...	Recovered.	...	Communicated by Dr Tait, Edinburgh.
A considerable time.	Head.	Recovered.	...	Practical Observations. vol. II. p. 232.
Several hours.	Head.	Recovered.	Dead.	Communicated by Dr Smith, Glasgow.
Some hours.	Arm and head.	Recovered.	...	Baudelocque, vol. II. p. 37.
Probably some hours.	Crossbirth.	Died.	Dead.	De Morbis Peritonei, p. 33.
About 8 hours.	Arm and Head.	Recovered.	Dead.	Communicated by Dr Macaulay.
Above 6 hours.	...	Recovered.	Dead.	Traité des Accouchemens, I., p. 356.
5 hours.	Abdomen.	Recovered.	Alive.	Cases in Midwifery, vol. II., p. 283.
4 to 5 hours.	Head.	Recovered.	Dead.	Communicated by Dr Skae, Leven.
4 hours.	Head and Arm.	Recovered.	...	Annals of Medicine, vol. IV., p. 308.
4 hours.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
4 hours.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
3 or 4 hours.	Shoulder.	Recovered.	Dead.	Seen with Dr Graham Weir.
3 hours.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
About 3 hours.	Head.	Recovered.	Dead.	Communicated by Dr Ingleby.
Above 2 hours.	...	Recovered.	Dead.	Prov. Trans., vol. VII., p 338.
Above 2 hours.	Arm.	Recovered.	Dead.	Seen with Dr Lewins of Leith.
Nearly 2 hours.	Head.	Recovered.	Dead.	Seen with Mr Hill, Portobello.
Less than 2 hours.	...	Recovered.	Dead.	Communicated by Dr Todd.
1½ hour.	Arm.	Recovered.	Dead.	Communicated by Dr Fraser.
1¼ hour.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
About 1½ hour.	Head.	Recovered.	Dead.	Communicated by Dr Smith, Glasgow.
An hour or more.	Shoulder.	Recovered.	Putrid.	Communicated by Dr Ramsbotham.
1 hour.	...	Recovered.	Putrid.	Médecine Pratique, tom. ii., p. 224.
1 hour.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
...	Breech.	Recovered.	Dead.	System of Midwifery, p. 360.
About 1 hour.	Breech.	Recovered.	Dead.	Communicated by Dr Gardiner.
About 1 hour.	Head.	Died.	Dead.	Communicated by Dr Smith, Glasgow.
About 1 hour.	Head.	Recovered.	Dead.	Communicated by Dr Ingleby.
About 1 hour.	Feet.	Recovered.	Putrid.	Communicated by Dr Irvine.
Above ½ hour.	Head.	Recovered.	Dead.	Communicated by Dr Smith, Glasgow.
Above ½ hour at least.	...	Recovered.	...	Pract. Obs., Case 154, vol. II., p. 229.
At least ½ hour.	...	Recovered.	Dead.	Communicated by Dr Todd.
½ hour.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
½ hour.	Head.	Recovered.	Dead.	Communicated by Dr Thompson, Hamilton.
½ hour.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
Within ½ hour.	Head.	Recovered.	Dead.	Communicated by Dr Skae, Leven.
About ½ hour	Shoulder.	Recovered.	Dead.	Communicated by Dr Paxton.

REMARKS.

20. " I found the vagina completely filled with the placenta, and the os uteri firmly contracting upon the funis."
25. " The hemorrhage was very excessive, so long as the placenta was only partially separated, but was immediately suppressed by completely detaching it."
27. Dr R. saw her " two hours after the first attack of flooding. The placenta was then wholly in the vagina, but there was not the least hemorrhage; the membranes were ruptured; the cervix unexpanded."
29. " Flooded 9 hours before placenta was expelled, but was immediately suppressed, on its expulsion."
30. Dr C. kindly informs me that the woman recovered perfectly.
31. Note by Dr G. " There was no flooding previous to the commencement of labour pains, and it was moderate throughout.
32. See case given in full, in Section VI.
34. " Absolutely no more hemorrhage than in a common natural labour."
37. Dr T. found the placenta lying in the vagina; the pains were strong and effective; and the infant was expelled in half an hour.
39. Dr Wharrie found the placenta partly in the vagina, and partly in the os uteri. He extracted it by a kind of twisting motion, and the hemorrhage immediately ceased.
42. " In this case, the pains entirely left her after the expulsion of the placenta; a full dose of ergot was given, the os uteri being fully dilated, and was followed by one or two smart pains, by which the child was expelled."

	By whom observed or reported.	No. of the pregnancy.	Period of delivery.	Degree of hemorrhage *before* the entire separation of the placenta.	Degree of hemorrhage *after* the entire separation of the placenta.	Mode of delivery of the child.
43	Dr Millar, Kilmarnock.	10th.	9th ,,	Great, 8 lbs. in 3 days.	About a pound.	Gentle Traction.
44	Dr Malcolm, Dundee.	Large fam.	...	Very little.	...	Turning.
45	Lamotte.	...	...	Great.	...	Turning.
46	Dr F. Ramsbotham.	9th.	9t month.	Very great.	None.	By natural pains.
47	Mr Johnstone, Brompton.	5th.	,,	Very great.	None.	By natural pains.

SECOND

Cases in which a Shorter Interval (less than 10 Minutes) elapsed

48	Dr Dewar, Dunfermline.	...	9th ,,	Profuse.	None.	By natural pains.
49	Dr Fraser, Aberdeen.	6th.	8th ,,	Very moderate.	Great.	Turning.
50	Mr Nimmo, Dundee.	Large fam.	...	Considerable.	...	By natural pains.
51	Dr John Ramsbotham.	...	...	Severe.	Stopped.	By natural pains.
52	Dr John Ramsbotham.	3d.	9th month.	...	None.	By natural pains.
53	Dr F Ramsbotham.	12th.	9th ,,	Exhausting.	None.	Turning
54	Dr Smith, Lasswade.	3d.	9th ,,	Excessive.	...	By natural pains.
55	Dr Maxwell Adams.	...	7th ,,	Very profuse.	...	...
56	Dr Barlow	2d.	9th ,,	Profuse.	Profuse.	Turning
57	Mr Crawford, Glasgow.	5th.	9th ,,	Not great.	None.	Turning.
58	Mr Crawford, ,,	4th.	9th ,,	Exhausting.	None.	Turning.
59	Dr M'Donald, ,,	7th.	9th ,,	Excessive.	"A good deal."	Turning.
60	Dr F. Ramsbotham.	2d.	6½ months.	Exhausting.	None.	Evisceration.
61	Dr F Ramsbotham.	3d.	8th ,,	Most violent.	None.	By natural pains.
62	Mr Tindal, Glasgow.	10th.	9th ,,	Fearful.	None.	Turning.
63	Mr Denny.	...	...	...	...	By natural pains.
64	Dr Conquest, London.	Large fam.	6½ months.	Active.	...	...
65	Mr Elkington, Birmingh.	...	7th, 8th mo.	A good deal.	...	By natural pains.
66	Mr Rose, Swaffham.	7th.	9th ,,	Not alarming.	None.	By natural pains.
67	Reviewer.	...	...	...	...	By natural pains.
68	Dr Menzies, Glasgow.	3d.	8th, 9th mo.	Considerable.	None.	By natural pains.
69	Mr James.	5th.	8th ,,	Very great.	Slight.	By natural pains.
70	Dr Francis.	...	...	...	...	By natural pains.
71	Dr Wilson, Whitburn.	4th.	...	Slight.	...	By natural pains.

THIRD

Cases in which the Placenta was expelled immediately

72	Mr Greenhow, Newcastle.	6th.	7th month.	Considerable.	...	Extracted.
73	Mr Campbell, Glasgow.	1st.	7th, 8th ,,	Excessive.	...	Turning.
74	Mr Fleming, ,,	5th.	...	Considerable.	...	Turning.
75	Mr Hardcastle, Newcastle.	Several.	7th, 8th.	Very great.	...	By natural pains.
76	Mr Lowe, Manchester.	3d.	8th ,,	Very profuse.	...	By natural pains.
77	Mr Sidebottom, ,,	3d.	9th ,,	Very copious.	...	By natural pains.
78	Dr Smellie.	Several.	9th ,,	Slight.	...	By natural pains.
79	Dr Stewart, Kelso.	6th.	8th ,,	Severe.	...	By natural pains.
80	Mr Tulloch, Newcastle.	Several.	7th ,,	...	...	...
81	Mr Wood, Manchester.	6th.	8th ,,	Very profuse.	...	By turning.
82	Mr Wood, ,,	5th.	9th ,,	Very considerable.	...	By natural pains.
83	Dr Young, Edinburgh.	...	9th ,,	Very great.	...	By turning.
84	Dr Currie, Lanark.	4th.	...	Violent.	...	By natural pains.
85	Dr Carruthers, Dundee.	3d or 4th.	9th month.	Considerable.	...	By natural pains.
86	Dr F. Ramsbotham.	4th.	8th ,,	Violent.	...	By natural pains.

REMARKS.

43. "The placenta was lying partly in the vagina, and partly in the uterus. After its extraction, the feet presented, which were laid hold of, and, at each pain, firm but gentle traction employed, till the child was delivered."
45. "I found the placenta occupying wholly the vagina, and pushing almost out of it. I immediately pulled it away, whereupon the membranes being torn, the waters came in great plenty, and I brought away a dead child by the feet." The flooding had been excessive.
46. Dr R. found the membranes pressing on the perineum, and the whole of the placenta almost in the vagina. It passed outside immediately on rupturing the membranes.
48. See Case under Section II.
49. See Case under Section VI.
52. Violent hemorrhage came on two days before delivery. It ceased entirely, however, and did not return.
53. Copious hemorrhage came on 3½ hours before delivery, on the membranes spontaneously rupturing. Dr R. found great part of the placenta in the vagina; there was no pain nor hemorrhage: and he would not have turned, had the shoulder not been the presenting part. The placenta came away, as the shoulders were passing the brim, before the head was extracted.
56. The placenta was expelled while she was on her feet. "She attempted to walk up stairs, and before she could reach the bed, a violent pain seized her, which instantly expelled the placenta, and disparted the funis about

— *Continued.*)

Time between the birth of placenta and birth of the child.	Presentation of the child.	Results.		Where reported, or by whom communicated.
		To mother.	To child.	
20 minutes.	Feet.	Recovered.	Dead.	Communicated by Dr Paxton.
Upwards of 20 minutes.	Arm.	Recovered.	Dead.	Communicated by Dr Keiller.
Not ½ hour.	...	Recovered.	Dead.	Traité des Accouchemens, p. 407.
10 minutes.	Head.	Recovered.	Dead.	Communicated by Dr Ramsbotham.
About 10 minutes.	Head.	Recovered.	Dead.	Communicated by Dr Elliot, Carlisle.

DIVISION.

BETWEEN THE SEPARATION OF THE PLACENTA AND THE BIRTH OF THE CHILD.

Less than 10 minutes.	...	Recovered.	Alive.	Communicated by Dr Dewar.
5 or 10 minutes.	...	Died.	Alive.	Communicated by Dr Fraser.
A short time.	Breech.	Recovered.	Dead.	Communicated by Dr Keiller.
A short time.	...	Recovered.	...	Pract. Obs., Case 155, vol. II., p. 231.
A short time.	Breech.	Recovered.	Putrid.	Pract. Obs., Case 156, vol. II., p. 233.
A short time.	Shoulder.	Recovered.	Dead.	Communicated by Dr F. Ramsbotham.
A few pains.	Head.	Recovered.	Alive.	Communicated by Dr Smith.
A few minutes.	Foot.	Recovered.	Putrid.	Monthly Journal, vol. IV., p. 936
A few minutes.	Shoulder.	Recovered.	Alive.	Essays on Midwifery, &c. p. 273.
A few minutes.	Head.	Recovered.	Alive.	Communicated by Dr Smith, Glasgow.
A few minutes.	Head.	Recovered.	Alive.	Communicated by Dr Smith, Glasgow.
A few minutes.	Head.	Recovered.	Dead.	Communicated by Dr Smith, Glasgow.
A few minutes.	Shoulder.	Died.	Dead.	Communicated by Dr F. Ramsbotham.
A few minutes.	Head.	Recovered.	Dead.	Communicated by Dr F. Ramsbotham.
A few minutes.	Head.	Died.	Dead.	Communicated by Dr Smith, Glasgow.
Next pain.	...	Recovered.	Alive.	Lancet, 1831, 1832, vol. I., p. 110.
Next pain.	...	Recovered.	Dead.	Communicated by Dr Conquest.
Soon.	...	Recovered.	Dead.	Communicated by Dr Ingleby.
Quickly.	Head.	Recovered.	Alive.	Communicated by Mr Rose.
...	...	Recovered.	...	Med. Chir. Review, vol. III., p. 317.
5 minutes.	Head.	Recovered.	Alive.	Communicated by Dr Smith, Glasgow.
4 minutes.	Head.	Recovered.	Dead.	Lond. Med. Repository, vol. VI., p. 412.
3 minutes.	...	Recovered.	Alive.	Francis's Edition of Denman, p. 485.
Less than 2 minutes.	Head.	Recovered.	Alive.	Communicated by Dr Wilson

DIVISION.

BEFORE THE CHILD, OR BOTH WERE EXPELLED TOGETHER.

Almost immediately.	Breech.	Recovered.	Dead.	Communicated by Dr Dawson, Newcastle.
Together.	Head.	Recovered.	Alive.	Communicated by Mr Campbell.
Turned immediately.	Head.	Recovered.	Alive.	Communicated by Dr Currie, Lanark.
Immediately.	Head.	Recovered.	Dead.	Communicated by Dr Dawson, Newcastle.
Immediately.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
Immediately.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
Immediately.	...	Recovered.	Alive.	Midwifery, vol. II., p. 310.
Immediately.	Head.	Recovered.	Dead.	Communicated by Dr Stewart.
Immediately.	...	Recovered.	Dead.	Communicated by Dr Dawson, Newcastle.
Immediately.	Head.	Died.	Dead.	Communicated by Dr Radford.
Immediately.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
Immediately.	...	Recovered.	...	Communicated by Dr Young.
Almost at same time.	Head.	Recovered.	Alive.	Communicated by Dr Currie.
Almost at same time.	Head.	Recovered.	Alive.	Communicated by Dr Carruthers.
Not many moments.	Head.	Recovered.	Dead.	Communicated by Dr Ramsbotham.

REMARKS.

six inches from the child's navel. A great effusion of blood followed, and the woman fainted ere she could be laid down on the bed."

58, 59, 73. "In these three cases, the placenta was detached, in introducing the hand to turn, and lay in the vagina, till the feet were brought down." Dr Smith's note.

60. See case at length, in Section VI.

62. See case at length, in Section VI.

64. Active hemorrhage had taken place before Dr C.'s arrival. "On examination, the pelvis was filled with coagula, and something like placenta. Another pain expelled an uninterrupted ovum, which was instantly ruptured, but the child was dead."

68. The placenta was born along with the head; but Dr M. was sensible of its being wholly detached, and lying in the vagina for fully five minutes.

70. Though not actually stated, it is clear, from the context, that the woman here, and in Case 143, recovered.

71. When Mr W. saw the woman, there was a little hemorrhage, but not so much as to cause any alarm, either for the mother or child. The pains were strong and downbearing, and in about twenty minutes the placenta was expelled. The next pain expelled the child.

72. The placenta was detached to some extent, when Mr G. was called in. He immediately separated the remainder and removed it.

78, 91, 92. The fact is not stated, but it is manifest, from the context, that the mothers recovered.

	By whom observed or reported.	No. of the pregnancy.	Period of delivery.	Degree of hemorrhage *before* the entire separation of the placenta.	Degree of hemorrhage *after* the entire separation of the placenta.	Mode of delivery of the child.
87	Dr Brownlee, Shotts.	6th or 7th.	...	...	...	By natural pains.
88	Dr Conquest, London.	...	9th month.	Violent.	...	By natural pains.
89	Dr Dawson, Bathgate.	7th.	8th ,,	Profuse.	...	By natural pains.
90	Professor Murphy, Lond.	Not a 1st.	9th ,,	Moderate.	...	By natural pains.
91	Dr Smellie.	2d.	8th ,,	...	...	By natural pains.
92	Dr Smellie.	...	8th ,,	Profuse.	...	By natural pains.
93	Anonymous.	...	...	...	...	By natural pains.
94	Gendrin.	...	...	Very great.	...	By natural pains.
95	Mr Easton, Glasgow.	...	9th month.	Considerable.	...	By natural pains.
96	Mr Easton. ,,	...	9th ,,	Considerable.	...	By natural pains.
97	Dr F. Ramsbotham.	Several.	8th, 9th ,,	Exhausting.	...	Turning.
98	Mr Rose, Swaffham.	4th.	9th ,,	Considerable.	...	By natural pains.
99	Mr Rae, Edinburgh.	4th.	9t ,,	Considerable.	...	By natural pains.
100	Schweighauser, Strasburg.	...	...	...	...	...
101	Dr Robert Lee, London.	...	7th ,,	Considerable.	...	...

FOURTH

CASES IN WHICH THE EXACT PERIOD BETWEEN THE SEPARATION

102	Mr Bailey, Thetford.	4th.	9th ,,	Profuse.	Profuse.	Turning.
103	Mr Bull.	6th	...	Most alarming.	...	Turning.
104	Cauviere.	...	...	...	None.	Forceps.
105	Dr Clarke.	...	...	...	...	...
106	Dr Hamilton, Edinburgh.	...	...	...	None.	...
107	Dr Hamilton, do.	...	...	...	None.	...
108	Labayle, Montpellier.	...	...	...	...	...
109	Romaine, Bagneres.	...	...	...	...	...
110	Lamotte.	...	...	Severe.	Considerable.	Turning.
111	Dr Robert Lee, London.	...	7th month.	Profuse.	...	...
112	Leroux.	...	7th ,,	Great.	Much diminished	Decapitation.
113	Dr Löwenhart.	...	...	...	...	Turning.
114	Dr Maunsell, Dublin.	...	...	Profuse.	...	By natural pains.
115	Mr Milligen.	...	...	...	...	By natural pains.
116	Sir F. Ould.	...	...	Profuse.	...	Turning.
117	Pardigon.	...	7th month.	Almost none.	None.	Turning.
118	Dr F. Ramsbotham.	...	...	Copious.	Little.	Turning.
119	Dr J. Ramsbotham.	...	...	...	Little or none.	...
120	Dr J. Ramsbotham.	...	...	...	Entirely ceased.	...
121	Mr Elkington, Birmingh.	8th month.	...	...	...	...
122	Dr Cahill, Berwick.	...	6th and 7th.	...	...	...
123	Mr Hardcastle, Newcastle.	...	...	Very great.	Not much.	By natural pains.
124	Dr Moody, St Andrews.	...	...	...	...	Turning.
125	Dr Mather, Brechin.	...	...	Not great.	...	By natural pains.
126	Dr Nimmo, senior.	...	...	Severe.	...	...
127	Mr Rose, Swaffham.	7th month	9th month	Moderate.	None.	Naturally.
128	Dr Wilson, Glasgow.	Large fam.	...	Profuse.	Profuse.	Turning.
129	Dr Wilson, Glasgow.	...	...	Profuse.	Profuse.	Turning.
130	F. Osiander. Gottingen.	...	7th month.	...	...	Naturally.
131	F. Osiander, ,,	...	4th ,,	...	...	Naturally.
132	F. Osiander, ,,	...	7th ,,	...	...	Turning.
133	F. Osiander, ,,	9th month.	9th ,,	Vio'ent.	None.	Naturally.
134	Dr Trefurt, Gottingen.	...	3d ,,	Very great.	...	Turning.
135	Kory.	...	...	...	...	...
136	Loss, Dorchester.	...	Large family.	...	...	...
137	Giffard.	7th month.	...	Violent.	...	Turning.
138	Mercier.	...	...	None.	Almost none.	Turning.
139	Amand.	...	...	Profuse.	...	Turning.
140	Dr Tennant, Falkirk.	2d.	9th month.	Severe.	...	Forceps.
141	Dr Morrison, Dalkeith.	Several.	...	Severe.	None.	By natural pains.

REMARKS.

88. On endeavouring to turn, "the os became so much irritated by the attempt to introduce the hand, that the organ forcibly contracted, expelling the hand, placenta, and child, and an almost incredible quantity of blood."
94. The hemorrhage ceased on the waters being allowed to escape by a female catheter, passed through the placenta, four hours before the birth of the infant, which was expelled with the placenta before it covered the head. Slight hemorrhage followed the delivery.
95. In this case, the placenta, though born along with the head of the child, was detached from the uterus about an hour. There was no hemorrhage from the time it was separated.
96. The placenta was born with the body of the child, but it had been detached for some hours.
97. The placenta passed, during the extraction of the child, before the breech.
99. I saw the woman a fortnight after delivery carrying her child, and well.—J. Y. S.
101. See Sect. V.
103. The arm was found to present after the expulsion of the placenta, and turning was then had recourse to. There is no word of hemorrhage after the placenta was expelled.
104. "Professor Cauviere has told me, that in one case where he introduced the forceps, for inertia of the uterus, when the head was in the pelvis, he was quite astonished to see the placenta pass out of the vagina, before the child, without the slightest hemorrhage."—*Pardigon's Essay.*
108–109. "It may happen," says Labayle, "that the placenta, though attached by its centre to the os, is pushed out before the head of the child, and the labour terminates in the most happy manner. I have myself wit-

— *Continued.*)

Time between the birth of placenta and birth of the child.	Presentation of the child.	Results. To mother.	Results. To child.	Where reported, or by whom communicated.
One pain.	Head.	Recovered.	Alive.	Communicated by Dr Wilson, Whitburn.
One pain.	...	Recovered.	Alive.	Communicated by Dr Conquest.
One pain.	Arm.	Recovered.	Dead.	Communicated by Dr Dawson.
One pain.	...	Recovered.	Dead.	Communicated by Dr Murphy.
One pain.	...	Recovered.	Dead.	Cases in Midwifery, vol. II., p. 311.
One pain.	...	Recovered.	...	Cases in Midwifery, vol. II., p. 313.
Same pain.	...	Recovered.	...	Medico-Chirurg. Review, vol. III., p.
Together.	...	Recovered.	Alive.	Médecine Prâtique, tom. II., p. 349.
Together.	Head.	Recovered.	Dead.	Communicated by Dr Smith, Glasgow.
Together.	Head.	Recovered.	Dead.	Communicated by Dr Smith, Glasgow.
Together.	Head.	Recovered.	Alive.	Communicated by Dr Ramsbotham.
Together.	Head.	Recovered.	Alive.	Communicated by Mr Rose.
Together.	Head.	Recovered.	Alive.	Communicated by Dr Campbell, Edinburgh.
Together.	...	...	...	Pratique des Accouchemens, p 224.
...	...	Recovered.	...	Clinical Midwifery, p. 148, Case 269.

DIVISION.

OF PLACENTA AND THE BIRTH OF CHILD NOT KNOWN.

...	Head.	Recovered.	Alive.	London Med. Repos., vol. XVI., p. 451.
...	Arm.	Recovered.	Dead.	Medical Gazette, vol. XIX., p. 622.
...	...	...	...	Pardigon de l'Insertion du Placenta.
...	...	Died.	...	Collins's Midwifery, p. 91.
...	...	Recovered.	...	Notes of Lectures and Obs., p. 313.
...	...	Recovered.	...	Notes of Lectures and Pract. Obs., p. 313.
...	...	Recovered.	...	Essai sur l'Hém. Uter., Montpellier, 1827.
...	...	Recovered.	...	
...	...	Recovered.	Alive.	Traité des Accouchemens, p. 405.
...	...	Recovered.	Dead.	Clinical Midwifery, p. 144, Case 263.
...	Arm.	Recovered.	Dead.	Leroux, sur les Pertes du Sang, p. 262.
...	Arm.	Recovered.	Dead.	Neue Zeitschrift für Geburtsk., bd. VII, h. 3. See Kleinert's Rep., 1842, VI., p. 58.
...	Head.	Recovered.	...	Dublin Journal, vol. V., p. 373.
...	...	Recovered.	Alive.	Lancet, vol. I., 1831, 1832. p. 232.
...	Head.	Recovered.	Alive.	Ould's Midwifery, p. 77.
...	Shoulder.	Recovered.	...	De l'Insertion du Placente a l'Orifice Uter.
...	Head.	Recovered.	...	Pract. Obs., vol. II., p. 232.
...	..	Recovered.	...	Pract. Obs., vol. II., p. 235.
...	...	Recovered.	...	Pract. Obs., vol. II., p 235.
...	...	Recovered.	Dead.	Communicated by Dr Ingleby.
...	...	Recovered.	Dead.	Communicated by Dr Cahill.
...	Head.	Recovered.	Dead.	Communicated by Dr Dawson.
...	...	Recovered.	Breathed.	Communicated by Dr Smith, St Andrews.
...	...	Recovered.	Alive.	Communicated by Dr Binning, Arbroath.
...	...	Recovered.	Alive.	Communicated by Dr Keiller, Dundee.
...	Head.	Recovered.	Alive.	Communicated by Mr Rose.
...	...	Recovered.	Dead.	Communicated by Dr Wilson.
...	...	Recovered.	Dead.	Communicated by Dr Wilson.
...	Head.	Recovered.	Dead.	Kleinert's Repertorium, 1832. April Number, t. 24.
...	Shoulder.	Recovered.	Dead.	
...	Head.	Recovered.	Dead.	
...	Head.	Recovered.	Putrid.	
...	Shoulder.	Recovered.	...	Hannoversche Annalen, Sept. 1841. Vid. Neue Zeitschrift. fur Geburtskunde, 1843, p. 121.
...	...	Recovered.	...	
...	...	Recovered.	Alive.	Observationes Medicinales, Lond. 1672, p. 380.
...	Arm.	Died.	...	Cases in Midwifery, p. 516.
...	...	Died.	Dead.	Journal Gén. de Médecine, tom. 45, p. 305.
...	Head and arm.	Recovered.	Dead.	Observations sur la Pratique, &c., p. 336.
...	Head.	Recovered.	Dead.	Communicated by Dr Tennant.
...	Head	Recovered.	Dead.	Communicated by Dr Morrison.

REMARKS.

nessed such a fact; and M. Romain, Professor of Midwifery at Bagneres, has communicated to me also an observation of this kind."

111. Dr Lee found the placenta protruding through the orifice of the vagina. He immediately extracted it, and a dead child followed.

101. In this case, the placenta was protruding at the os uteri; on drawing it forward gently, the whole ovum escaped without rupture of the membranes.

113. A midwife had separated the placenta which presented, and drawn it out of the external parts.

119, 120. I am kindly informed by Dr Ramsbotham that he knows "one of the mothers recovered, and he believes the other also."

128, 129. See Section V.

137 See Case in Section VI.

138. See case in Section VI.

For details of other Cases see future Sections.

SECTION IV.—GENERAL DEDUCTIONS REGARDING THE PRECEDING 141 CASES.—1. NUMBER OF THE PREGNANCY.—2. PERIOD OF DELIVERY.—3. MODES OF PRESENTATION OF THE CHILD.—4. MODES OF DELIVERY.—5. NUMBER OF CHILDREN LOST AND SAVED.

We shall now attempt to state in a generalized form some of the more important points deducible from the consideration and examination of the preceding table. Before doing so, however, I would take this opportunity of remarking, that the total separation and expulsion of the placenta before the infant, does not seem to be so very rare and uncommon a circumstance as medical men generally believe, and as authors allege it to be. Dr Collins states, that it is "extremely rare to meet with a total separation of the placenta in unavoidable hemorrhage."[1] In reporting Mr Denny's case, (*Table, No.* 63) Mr Gower observes, "it is perhaps a solitary instance in the annals of obstetric practice. The placenta was brought into the world before the child. The uterus closed upon the body of the fœtus so as to prevent hemorrhage, and after another pain the child was born alive. It was a quick labour, and no ill effects followed from an accident from which disastrous consequences might have been reasonably apprehended to both mother and child. Perhaps (adds Mr Gower) there is no other such case on record, and it merits notice, as an example of the competency of nature to provide for extraordinary emergencies."[2]

The number of cases included within the preceding tables, shows the entire separation of the placenta in placental presentations to be by no means so rare as these and other authors seem to suppose. I have no doubt that the records of medicine contain more cases than I have had leisure or opportunity of searching out; and I feel assured that a more extensive and industrious inquiry at private practitioners than I have been able to institute, might have brought to light a considerable number of additional instances.

1. *Number of the Pregnancy in the cases included in the Table.*—In 81 cases the number of the pregnancy is stated, or facts mentioned, so as to enable us to infer whether the patient had previously born a family or not.

In 12 cases the mother had		"several"	children previously.
In 4	„	„	"a large family" „
In 1 case it was the			15th pregnancy,
In 1	„	„	12th „
In 3	„	„	10th „
In 5	„	„	9th „
In 2	„	„	8th „
In 8	„	„	7th „
In 6	„	„	6th „

Carry forward, 43

[1] Treatise on Midwifery, p. 90.

[2] Lancet for 1831–32, vol. i. p. 119.

Brought forward, 43

In	6	cases it was the	5th pregnancy.
In	9	„ „	4th „
In	10	„ „	3d „
In	5	„ „	2d „
In	8	„ „	1st „
Total,	81		

2. *Periods of utero-gestation at which the patients were delivered.*—In 89 cases out of the 141 the requisite information is supplied on this point. The result is as follows:—

Before the 6th month . . .	3 were delivered.
From the 6th to 7th month . .	5 „
From the 7th to 8th month . .	19 „
From the 8th to 9th month .	19 „
From the 9th to full time . . .	43 „
Total .	89 cases.

The preceding data are so far corroborative of the well-known fact, that in placental presentations the labour is very frequently premature. In 28 of his 42 cases of *placenta prævia*, Dr Rigby mentions the date at which labour came on. In 13 of the 28 the labour was more or less premature; in 15 the women are said to have reached the full term of pregnancy. Dr Lee has reported[1] 36 cases of unavoidable hemorrhage; in 3 instances he does not state the date of the labour; in 2 only had the women reached their full time; and in the remaining 31 patients, the labour was premature. Out of 16 cases of the same complication reported by Madame Lachapelle,[1] 1 patient was near the seventh month of pregnancy; 6 were delivered during the seventh month; 5 during the eighth month; 1 at the beginning of the ninth month; 1 towards the middle of it, and 2 during the course of it. Levret discusses at some length the question, "why some of the women who have the placenta implanted upon the cervix uteri arrive at the full time, and why the greater part (*la plupart*) of those who are in the same condition do not reach that period."[3]

3. *Modes of Presentation of the Child.*—This is specified in 90 cases.

In	4	cases the feet presented.
In	6	„ breech presented.
In	21	„ trunk or upper extremity presented.
In	59	„ head presented.

In 4 of the head cases (Tables, No. 8, 14, 10, and 139,) an arm presented along with the head.

In the above, as in all other statistical returns, referring to the presentation of the child in cases of placenta prævia, the number of preternatural presentations, and particularly of cross-births, is remarkable.

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[1] Clinical Midwifery, p. 142, &c. [2] Pratique des Accouchmens, tom. ii. p. 415, s.qq.
[3] L'Art des Accouchemens. Paris, 1771, p. 367.

4. *Modes of Delivery of the Child.*—The means by which the children were ultimately delivered have varied greatly according to the peculiarities arising from the presentation, and the supposed necessity or non-necessity of direct instrumental or other interference.

In	1	case the child was delivered by the		Long forceps.
In	3	„	„	Short forceps.
In	1	„	„	Evisceration.
In	2	„	„	Decapitation.
In	3	„	„	Simple traction.
In	40	„	„	Turning.
In	66	„	„	Natural pains.
Total	116			

In the remaining 25 cases the manner of delivery is not specified.

5. *Number of Children Lost and Saved.*—In 113 instances in the Table, the result as regards the life or death of the child is stated. In 1 (No. 10) of the 113 cases it was malformed (anencephalous) and incapable of sustaining extra-uterine life, and in 6 others it was putrid or had died before labour commenced. The following statement shows the result as respects the remaining 106 cases :—

In 73 cases the infant was born *dead.*
In 33 „ the infant was born *alive.*

According to these data, nearly 1 out of every 3 children survived ;—or 31 per cent. of the children were saved, and 69 per cent. of them were lost. I shall have again occasion to recur to this topic in the sequel of the memoir.

SECTION V.—DEGREE OF HEMORRHAGE BEFORE THE SEPARATION OF THE PLACENTA, ITS ABSENCE THE EXCEPTION TO THE RULE: DEGREE OF HEMORRHAGE AFTER THE COMPLETE SEPARATION OF THE PLACENTA, ITS PRESENCE THE EXCEPTION TO THE RULE: PROPORTION OF CASES: NO RELATION BETWEEN THE EXTENT OF THE HEMORRHAGE AND THE DURATION OF INTERVAL BETWEEN THE DETACHMENT OF THE PLACENTA AND THE BIRTH OF THE CHILD.

Out of the 141 cases included in the preceding Table, (Sect. III.) we have returns in 111 instances regarding the extent of the hemorrhage that was present previously to the perfect detachment and expulsion of the placenta. The preceding flooding is reported as

Great	in 72	cases.
Considerable	in 24	„
Slight	in 8	„
Little or none	in 7	„
Total	111	

The seven cases in which there occurred little or no hemorrhage during and anterior to the disjunction of the placenta, are those entered in the Table as No. 5, 11, 14, 28, 34, 117, and 138. Mercier

has devoted a special essay[1] to the consideration of such exceptional instances to the general rule of flooding occurring as an "unavoidable" symptom in placental presentations. "The hemorrhage," observes Caseaux,[2] "which they have generally considered as *inevitable* in these cases, (placental presentations), may, however, not show itself even during the progress of labour, and the dilatation of the cervix uteri may be effected without there escaping one drop of blood." Caseaux afterwards adverts to the opinions which Walter, Moreau, and others have offered in explanation of this exception. (See also Velpeau's *Traité Complet des Accouchemens*, vol. i. p. 356, and vol. ii. p. 81.) The most rational idea seems to be, that in such cases the child has been dead for some time, and the utero-placental circulation in consequence arrested previously to the supervention of parturition.

But in relation to the objects of our essay, it is a much more interesting and important subject for us to inquire into the degree of hemorrhage *after*—than the degree of hemorrhage *before* the complete separation of the placenta.

"The great and excessive losses of blood (states Mauriceau, in one of his aphorisms),[3] which happen sometimes to the pregnant woman, proceed almost always from the detachment in *whole* or in part of the after-birth from the uterus; and these kinds of losses of blood never cease entirely till the female is delivered."

In criticising this aphorism Levret observes,—"The first part of this statement is, in general, but too true, but the second part is not so constant as Mauriceau gives it. For the daily practice of accoucheurs shows, that there are occasionally women attacked with great hemorrhage, in consequence of partial separation of the placenta, who nevertheless arrive at the natural period of delivery; thus the word *never* is too positive, as it does not allow of any exception, and it can only apply to those cases in which the separation of the placenta is *complete*, and not to those where it is only partially detached."[4]

Levret elsewhere[5] remarks, in his essay on placenta prævia,—"Daily practice teaches us that the placenta is never detached spontaneously, without the contraction of the part where it was affixed, and without the detachment of this vascular mass, whether *complete* or partial—being followed by discharge of blood."

The allegations made by Mauriceau and Levret, regarding the continuance of hemorrhage after *total* separation of the placenta, (and I might quote similar averments, if necessary, from later

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[1] "Les Accouchemens ou le Placenta se trouve opposé, sur le col de la matrice, sont-ils constamment accompagnés de l'hemorrhagie?"—*Journal de Médecine*, vol. xlv. p. 305.

[2] Traité de l'Art des Accouchemens, 1841, p. 559.

[3] Traité des Maladies des Femmes Grosses, &c., tom. i. p. 534, aphor. 44.

[4] L' Art des Accouchemens, &c., p. 395.

[5] Loc. cit., p. 347.

authors), are perhaps such as the mind might be inclined to draw from reasoning upon the subject of complete detachment of the mass. But if we turn from theory to fact—and from preconceived opinions to careful observations, we shall find the above statements perfectly and directly contradicted by the results of practical experience. For I believe that the data which I have collected for the present paper, are amply sufficient to establish as a great physiological and practical fact—that when the placenta, in cases of unavoidable hemorrhage, is once *completely* detached from its connections with the interior of the uterus, the accompanying flooding in general entirely ceases, or becomes quite moderate and inconsiderable in quantity. The cases adduced in the Table, Sect. III., afford the strongest possible evidence in favour of the truth of this important principle. A slight analysis of them, in reference to this point, will sufficiently demonstrate our proposition.

From the nature of the *third* Division of the Table of cases, including, as it does, those instances in which the expulsion of the placenta was immediately, or almost immediately, followed by the [illegible] of the infant, we can, from this section of our data, expect few or no decided returns in reference to the degree of hemorrhage existing after the total detachment of the placental mass. In the two or three cases, however, of this division, in which the complete detachment of the organ occurred some time before its complete expulsion—the attendant hemorrhage was observed immediately to cease. Thus, in reference to two instances, (Cases No. 95, 96,) which occurred in the practice of Mr Easton of Glasgow, it is stated in the notes of them with which I have been favoured, that though in both the placenta was only expelled immediately before the child, yet it had been previously separated,—in one above an hour—and in the other, for several hours, and in neither of the mothers did any hemorrhage occur after the placentæ were wholly detached from the uterine surface. In both instances the placentæ were originally affixed close to the os uteri—but not over it—and were detached early in the labour.

In the 111 remaining instances, the facts in regard to the existence or non-existence of hæmorrhage during the interval between the detachment or expulsion of the placenta and the birth of the child, stand as follows:—In 39 out of the 111 cases, the absence or presence of hemorrhage after the expulsion of the placenta, is not stated or alluded to by the reporters; but it is evident, from the other circumstances which they describe, that in most of these cases there could have been no serious, if, indeed, any extent of flooding, because the woman was allowed to remain undelivered, in many of them, for a considerable time after the placenta was separated—a state of matters which would not have been permitted if there had been any degree of discharge calling for the immediate delivery of the patient. Three out of these 39 mothers died—one from puerperal fever (see Table, No. 4); a second, (No. 137), apparently from

post-partum hemorrhage;—the cause of death in the other case, (No. 104), is not stated.

In 70 of the 111 cases, the existence and degree of hemorrhage, after the complete separation of the placenta, is distinctly stated, and may be tabulated as follows :—

In	44	cases	the hemorrhage	was completely arrested.
„	10	„	„	was very slight, or almost none.
„	7	„	„	was inconsiderable.
„	1	„	„	soon ceased.
„	1	„	„	was much diminished.
„	1	„	„	was considerable.
„	1	„	„	was "a good deal."
„	5	„	„	was profuse.
Total,	70			

It thus appears, that after the complete detachment of the placenta, the hemorrhage was totally arrested in a large majority of the cases; that it was not alarming in its extent in a great proportion of the remaining instances; and that in 5 only out of the 70—or rather in 5 only out of the 111 labours, did it continue so profuse in the circumstances, as to be considered alarming by the attendants, or in such excess as to require special notice in their reports.

Hence in one only out of every 22 labours does there appear to have been a continuance of hemorrhage to a great or profuse degree after the placenta was detached. One of the five mothers died (see Dr Fraser's case in Section vi.) The other four all recovered.

But it may be proper to consider more at length the five cases in which the hemorrhage is stated to have gone on to a profuse extent after the separation of the placenta, in order to judge better of the circumstances which may lead to its continuance in other instances.

First of all, however, it seems necessary to remark, in regard to the alleged continuance of the hemorrhage after the entire separation of the placenta, that the observation itself—simple and easy as it may appear—is one which is most undoubtedly liable to several sources of fallacy. Some of the authors who have described cases of the expulsion of the placenta before the child, and not a few of the medical gentlemen who have communicated to me instances of the kind, have expressed the surprise which they felt at the flooding suddenly ceasing upon the separation of the placental mass, in contradiction to what their pre-conceived opinions led them to expect. Any degree of incaution in the observation of the case might thus easily lead the medical attendant to suppose, that the blood effused externally, or lying in the vagina, was the result of the *continuance* of the hemorrhage subsequently to the total disjunction of the placenta, whilst in reality it might have been the result of the degree of flooding existing antecedently to that event, that is, whilst the placenta was still only partially detached. The blood *already* discharged might,

in other words, be readily mistaken for blood in the act of *being* discharged. I am the more inclined to insist upon this source of error, in consequence of the strong fact, that out of all the first division of cases in our Table—forty-seven in number—and where there was a *long* interval between the expulsion of the placenta and the birth of the child, and, consequently, ample time allowed to confirm or correct any observation upon the degree of existing hemorrhage, in not one single instance is the flooding after the complete placental detachment alleged to have been profuse, or even considerable in its extent. Again, if there had been going on any internal accumulation of blood in the uterine cavity, or rather between the membranes and the uterus, during the period of the *partial* separation of the placenta, and before its complete detachment, the escape of this blood after the expulsion of the placenta might lead to the same error. Another occasional source of fallacy may consist in this, that the membranes may become ruptured by the same pain which expels the placenta through the os uteri or vagina, or they may burst during a subsequent uterine contraction, and the sudden gush of escaping liquor amnii, when mixed up with the effused blood, might be readily mistaken for a pure hemorrhagic discharge.

Of the five cases in which the hemorrhage is alleged to have continued to a considerable or great degree after the detachment of the placenta, one affords an illustration of this last remark. I quote it from La Motte.

Case of hemorrhage, with the placenta expelled from the vagina; excessive discharge; turning; infant and mother recovered.—La Motte was summoned to a woman who had been in labour from the previous day, and who had been losing blood for about two hours. "I went immediately," to adopt his own narrative, "though it was a good league (*grande lieuè*) out of town. As I entered the court, several women came out with frightful shrieks, indicating to me, better than they could tell me, the extreme danger of my poor patient. I instantly descended from my horse, and hurried to where she was. I found that the after-birth had just been pushed out of the vagina by the last pain, and the discharge of blood had come in such abundance, as to have imparted that terrible fright to the bystanders, that had made them utter this piercing cry. I hastened to pull away the after-birth, glided my hand into the uterus, seized the feet of the infant, drew them into the passage, and accomplished the delivery in an instant. The infant was sufficiently alive to be baptized, but died soon after. The mother recovered in a sufficiently brief period, notwithstanding the fearful loss of blood." In some remarks which La Motte offers upon this case, he observes, that he judged the membranes in this case to have been entire from the surprising evacuation that followed the placenta when he drew it out, and which could not have been all blood, as it came

away with much greater violence than it did previously, and the woman could not have borne the loss of such a quantity of blood without sinking. "But I am persuaded," he adds, "that the waters escaping from the membranes in which they were contained, became mixed with the blood effused from the vessels, the midwife having informed me, that the waters were ready to burst when the accident (the expulsion of the placenta) happened, and they flowed out from my tearing the bag, in separating the placenta."

In the above case of La Motte's, the evidence of a continuance of true hemorrhage after the detachment of the placenta is by no means decisive, but we have placed it in that category, in order to avoid the fear of error. The continuance of hemorrhage under the same circumstances is probably better marked in the four following cases. For the two first I am indebted to Dr Wilson of Glasgow, in whose practice they occurred. I shall give them in his own words.

Case of expulsion of placenta; hemorrhage; turning.—"*May* 7, 1821. Mrs G., the mother of a large family, was seized, near the termination of pregnancy, with profuse flooding. Dr M. was sent for. He found the placenta presenting; it very soon came away, the discharge continuing. I was called in, and such was the profusion of the discharge, and state of exhaustion, that turning was instantly resorted to. The child was dead—there was no discharge after delivery. The recovery was tedious, but at length complete." —*See Case No.* 128 *in the Table.*

Case of the placenta lying with its fœtal *surface over the os uteri; hemorrhage; turning.*—"*April* 17, 1833. This evening I was sent for by Dr Cunningham to see Mrs ——, Portugal Street, who was, and had been flooding for several hours. The placenta was found lying loose over the os uteri, with the *fœtal surface downward;* the finger at once touched the origin of the umbilical cord. The placenta was turned aside, the feet laid hold of, and a dead child extracted. She made a good recovery."—*See Case No.* 129 *in the Table.*

This last case is, as far as I know, unique in the circumstance of the placenta being found quite inverted over the os uteri, or with its fœtal, instead of its maternal surface lying in contact with that part. It may probably so far be regarded as a proof that in this instance there was a cause for the hemorrhage continuing in a most unusual and extreme degree of atony, or relaxation of the uterus, —a state which would seem necessary in order to admit of the possibility of the inversion of the placental mass. In the two following cases of Mr Barlow and Mr Bailey, we have the hemorrhage persisting under different conditions, viz., the patient being in the upright posture at the moment of the separation and expulsion of

the placenta; and besides, having in the first of them that disposition of the uterus, (whatever its special nature may be,) which gives rise to post-partum hemorrhage.

Case of expulsion of the placenta preceding the delivery of the child; hemorrhage both after the expulsion and delivery.—A woman in the last month of her second pregnancy, suffered from uterine pains and a slight discharge of blood at intervals. The hemorrhage ceased when the horizontal position, &c. were adopted. Next morning Mr Barlow was summoned to see her, and found her sitting on a chair in a state of great alarm; a profuse discharge of blood succeeded every pain. "On requesting her," he continues, "to be conveyed to bed, she attempted to walk up stairs, and before she could reach the bed, a violent pain seized her, which instantly expelled the placenta, and disparted the funis about six inches from the child's navel. A great effusion of blood followed, and the woman fainted ere she could be laid down on the bed." Dr Barlow passed up his hand into the uterus, found the os uteri in a lax and dilated state, with the shoulder presenting, laid hold of the feet, and accomplished the delivery of the child, by turning, in a few minutes. "The child appeared feeble, but soon recovered on being placed in a warm bath. A considerable hemorrhage," he adds, "followed the birth, on perceiving which I returned my hand into the uterus, and by keeping it moving therein for a time, its contractions were renewed, and the hand was then withdrawn, and the flooding abated, and though the woman appeared much reduced through the loss of blood, she soon recovered.—*See Case No. 56 in the Table.*

Case of unavoidable hemorrhage supervening during exertion; sudden expulsion of the placenta; turning; mother and child saved.—The case occurred to Mr Bailey of Thetford. A woman, aged 32, three weeks before the time of her expected fourth confinement, when exerting herself by washing, &c., was seized with a sudden and violent flooding, accompanied by an extreme degree of bearing down, which, to make use of her own expression, felt "as if the head of the child was in the birth." In the act of stepping upon the bed, she was taken with a pain, during which the placenta was forcibly expelled, and was suspended between the thighs by the funis. At this moment a deluge of blood followed; and she sunk down senseless upon the bed, to all appearance dead, the pulse being imperceptible, and the skin covered with a cold clammy sweat. The os uteri was found to be completely dilated, the passages were well relaxed, and the head presented in the first position. Turning was adopted, and easily accomplished. During the operation, "the hemorrhage was alarming, and large coagula were present in the uterus, which were expelled as soon as the child was born. When the uterus was excited to contraction, the hemorrhage ceased. The

child at first appeared to be still-born, but was restored by the proper means. Both the mother and the infant did well.—*See General Table, No.* 102.

In relation to the two last cases of alleged hemorrhage after the placenta was totally separated, it deserves to be specially held in view that, as already alluded to, in both cases the patients at the time at which the placenta was detached, were in the upright position,—a circumstance which is well known to be a very certain cause of post-partum hemorrhage when there is any tendency to that condition;—in both patients the cervix uteri was very relaxed, the introduction of the hand in the operation of turning being performed with great ease;—in both, the *complete* separation of the placenta must have occurred a very short time before delivery, as each of the children was born alive;—and in the last patient (Mr Bailey's) the discharge of blood which took place after the expulsion of the placenta, must have been to some extent the result of a *previous* internal accumulation occurring during the partial separation of the placental mass, as the blood itself had had time to coagulate. This internal hemorrhage and accumulation of blood probably occurred also in the remaining case upon our list of hemorrhage after the complete separation. For the details of it, see Dr Fraser's case in the next section, and the remarks upon it.

That the extent of the hemorrhage has no direct relation to the extent of the interval between the expulsion of the placenta and the delivery of the child, is amply attested by the following facts:—All the reputed instances of hemorrhage after the complete detachment of the placenta, have occurred in cases where the interval between the birth of the placenta and of the child, was short or uncertain; or, in other words, among the patients included in the Second and Fourth Divisions of the General Table. Among the cases belonging to the First Division of the Table, in which the interval between the detachment of the placenta and the delivery of the child was longer, and varied from ten minutes to ten hours, and where, consequently, there was more time to observe any degree of flooding that might exist, *in not a single instance, was the hemorrhage observed to be great, or even considerable in extent.* On the contrary, in one only of the forty-seven cases belonging to this division, was it in any unusual degree;[1] in nine, it is reported as "almost none," "trifling," or "slight," or "very slight;" and in twenty-three cases, it was totally and completely arrested. In nine the degree of it, if any, is not stated.

I shall have occasion to revert to the practical bearing and importance of these facts in a future section of the essay.

[1] Case 43. The patient lost 8 lbs. of blood in three days, and "about a pound" after the expulsion of the placenta.

SECTION VI.—COMPARATIVE MORTALITY IN PLACENTA PRÆVIA FROM TURNING, &c., AND FROM EXPULSION OR EXTRACTION OF THE PLACENTA; TEN FATAL CASES AFTER SPONTANEOUS EXPULSION: DETAILS OF EACH CASE; SEVEN OF THEM INDEPENDENT OF THE SEPARATION OF THE PLACENTA: NATURE OF THE THREE REMAINING CASES.

In common cases of placental presentation we have already found, from ample statistical data, that the average mortality to the mother is about 1 to 3, (see Section I.) Among the 141 cases of expulsion and extraction of the placenta which we have collated into the Table, (Sect III.) 10 mothers died, or the average mortality to the mother was 1 in 14. The difference between the two sets of cases, namely, 1st, Those terminated according to the present recognised rules of midwifery; and, 2d, Those terminated by the spontaneous expulsion or extraction of the placenta,—is sufficiently striking when thus simply stated. The contrast may be more easily appreciated if we tabulate the results in the following manner:—

Mode of Management.	Number of Cases.	Number of Maternal Deaths.	Proportion of Maternal Deaths.
Cases treated by extracting the child before the placenta,—rupture of the membranes, &c.	399	134	1 in 3
Cases in which the placenta was expelled or removed before the child.	141	10	1 in 14

The evidence in favour of the safety of the termination of such cases by the expulsion or extraction of the placenta before the child, will become still more striking if we turn our attention specially to the ten fatal cases themselves; for we will find that the fatal result in few, if any of these cases, can be directly traced and ascribed to the circumstance of the placenta being completely separated, or to any possible consequence arising from that separation. An examination of these ten fatal cases in detail will sufficiently prove this remark.

Four of the ten mothers died several days subsequently to delivery. I shall first describe these four cases, as far as I have notes of them, so as to show more clearly the immediate cause of death in each.

Case of placenta prævia; placenta expelled an hour before the child; patient died on 10*th day, after having been up, and exposed to excitement and injury on the* 9*th.*—The case occurred in the practice of Mr Hay of Glasgow. It was a first pregnancy, and the patient had arrived at the full period. Before the separation of the placenta, the hemorrhage was excessive, and she was quite sunk and exhausted. Very little blood was lost after the placenta had come away, though the infant was not born for an hour. It was expelled by the natural pains, and was still-born. The following is

Mr Hay's note on the case:—" This patient seemed to sink from excitement. She and her husband quarrelled on the 9th day after the birth of the child, and on the 10th she died." Dr Smith of Glasgow,[1] who has reported this, with various other cases to me, states more explicitly, that " she left her bed and fought with her husband till perfectly exhausted, from which state she never recovered." (*See No.* 32 *in the Table.*)

The fatal result in this case does not require a word of comment; the fact of the woman being able to leave her bed, and to act in the way described, is sufficient proof that she was in a fair way of recovery, and that she would in all likelihood have done well, had it not been for her own indiscretion. In the instance which I have next to quote, the fatal event is also ascribed by the reporter to imprudence on the part of the patient, and, at all events, the degree of hemorrhage was such as in no way to endanger her life.

Case of spontaneous expulsion of the placenta; little or no hemorrhage either before or after its separation; death on the 7th day from " purpura alba."—" About 16 years ago I was called," says Walter,[2] " to the assistance of the wife of the former Castellano of the Royal Academy of Treptow. On arriving I found her in bed; labour had commenced at 4 A.M., seven hours before; the placenta was already separated, and had fallen to the ground; it was still attached to the infant by the cord. I was astonished at this very rare phenomenon, which at that time I could not explain, as I did not then understand the structure of the uterus as I now do. As it was a cross presentation, I had recourse to turning, and within a few moments I delivered the woman of a dead child. I can affirm most positively," the author adds, " that before my arrival, and during the labour, the woman did not lose above two ounces of blood. She did well till the third day, but an improper and contentious mode of living (*inordinata atque contentiosa vivendi ratio*) was the cause of her being seized with " *purpura alba*,"[3] of which she died on the 7th day after delivery." (*See No.* 9 *in the Table.*)

In two of the fatal cases the mothers died from puerperal fever, or peritonitis. These two instances have been recorded by Dr

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[1] I am happy in having this opportunity of offering my best thanks to Dr Smith for the very great zeal and kindness with which he has assisted me in Glasgow, in the collection of cases for the present memoir.

[2] De Morbis Peritonæi et Apoplexia. Berlin, 1785, p. 33.

[3] Or " miliaria," a disease which, under the old " heating" method of treating puerperal women, was formerly extremely fatal. The Stockholm Academy proposed in 1769 as a prize question, " How the different kinds of miliary fever should be prevented and cured, as well in lying-in women as in others." The successful author, Schultz, showed strongly the necessity of adopting a cooling regimen. Dr Whyte's excellent Essay on Miliary Fever (Treatise on Lying-in Women, p. 25—55) did much to banish the disease from English practice.

Merriman and M. Mercier, and I shall detail them as nearly as is consistent with brevity in the authors' own words.

Case in which the placenta was expelled long before the child, &c.—"I was once," Dr Merriman states, "consulted by a very careful and judicious practitioner, respecting a woman, who, when I first saw her, was rapidly sinking under puerperal fever. In this case the placenta was expelled many hours before the child was born, and no extraordinary means were used to expedite the delivery of the child; a physician accoucheur, who was consulted upon the occasion, having deemed it more prudent to leave the case to nature. The fatal event, however," Dr Merriman unadvisedly adds, "would lead one to doubt whether it was wise, under such circumstances, to decline the interference of art."[1] (*See No.* 4 *in Table.*)

Case of placenta prævia; no hemorrhage with the first part of the labour; vomiting; fever; placenta spontaneously expelled; child delivered with forceps; mother died of peritonitis nine days after delivery.—For upwards of two days before Mercier saw the patient, she had been attended by a midwife, and latterly by a medical man who was called in during the course of the second day, and finding the woman feverish, had bled her largely. The bleeding had lessened the pains, which did not return till that evening. The patient had not suffered from any discharge of blood from the uterus, but she felt extremely uneasy; was not able to rest in bed; and rejected by vomiting every thing that was given to her. About two o'clock in the morning of the third day, while she was walking about with a person supporting her, a strong pain expelled the placenta, which fell to the ground, followed immediately by the escape of the waters. The embarrassment of the midwife was extreme. She divided, however, the cord, and waited the arrival of M. Mercier, whom she had immediately summoned. The pains again ceased, and the woman having been put to bed, got a little sleep. "The placenta," says M. Mercier, "was shown me, of a small size, and covered with dust. The cord was implanted in its middle, and about half a yard of it was attached. Only a few spoonfuls of blood had been lost in addition to the small quantity that had escaped from the cord when it was divided. In consequence of it being impossible to excite the uterus to sufficient action, it became necessary to terminate the labour by the forceps. This was accomplished easily. The child did not appear to be at the full time. Its extraction was followed with a very moderate effusion of blood, which scarcely penetrated a cloth folded four times. "This small quantity," observes Mercier, "joined to what had accompanied the falling of the placenta, did not exceed the loss of blood in ordinary labours." An hour after delivery, there was sanguinolent oozing which soon ceased. Subsequently, however, the woman was at-

[1] Synopsis of Difficult Parturition, p. 126.

tacked with peritonitis, and died of this affection nine days after delivery.[1]—*See Table, No.* 138.

Besides the four instances of death which we have just described at periods more or less distant from delivery, two others of the ten fatal cases occurred within a very short time after the birth of the infant, and a third (Dr Ramsbotham's) appears also to come under this head. Yet, as shall appear from the details which we will now give, the death in these cases was not apparently in consequence of any hemorrhage or other cause arising from the complete separation of the placenta, the hemorrhage in all of them having ceased when this separation took place. All the three mothers were delivered by operative means.

Case of severe hemorrhage and presentation of the arm; child eviscerated to permit delivery; placenta detached during the operation; no hemorrhage from its detachment; mother died.—The case occurred in the practice of Dr Ramsbotham, to whose kindness I am indebted for the following details. On December 24, 1839, Dr Ramsbotham was called to see Mrs E., who was gone $6\frac{1}{2}$ months in her second pregnancy. She was in a state of exhaustion from severe hemorrhage, having lost about two quarts of blood. "The previous attendant," to give Dr Ramsbotham's own words, "ruptured the membranes at 7 or 8 A.M., after which there was no further hemorrhage. The arm now came down, which he took off. I delivered her with great difficulty, owing to the undeveloped state of the cervix, at $4\frac{1}{2}$ P.M. I could not get the hand into the uterus, but managed to perforate the chest by a blunt hook, and to extract many of the viscera. In trying to perforate the chest, I hooked down the placenta, a part of which was hanging loose in the vagina; *still there was no flooding.*"—*See No.* 60 *in the Table.*

Case of profuse and exhausting hemorrhage, terminated by expulsion of the placenta; turning; immediate death.—The woman was a patient of Mr Wood's of Manchester. She had borne five children previously, and had reached the eighth month of her sixth pregnancy. The hemorrhage was very profuse previous to the expulsion of the placenta, and had caused great exhaustion; after this it completely ceased. Turning was immediately had recourse to, and a dead infant was extracted by the feet. She died immediately after her delivery.—*See No.* 81 *in the Table.*

Case of head presentation and unavoidable hemorrhage; placenta completely detached in the operation of turning; previous exhaustion; death.—The woman (a patient of Mr Tindal's of Glasgow) was at the end of her tenth pregnancy. The head of the child presented.

[1] Journal Ancien de Médecine, tom. xlv.

There was fearful hemorrhage before the placenta was expelled, but none after. Delivery was effected by turning a few minutes after the escape of the placenta. The mother died in half-an-hour. "In this case," Dr Smith observes, in the note which I have received along with it, "the patient was exhausted previous to turning, and that operation was adopted to have delivery effected before she died. The placenta was accidentally separated during the course of the operation, and Mr Tindal was perfectly certain that the hemorrhage ceased from that moment."—*See Case, No.* 62 *in the Table.*

In the three remaining cases of maternal deaths, the fatal occurrence took place during labour, or immediately subsequent to delivery. Of two of the three cases I have only very imperfect notes, which I give, such as they are, before offering any comment on them.

Case of "flooding, with one arm and part of the placenta slipped down below the os uteri internum;" turning; post-partum hemorrhage; death.—"October the 17th, 1731, about ten o'clock in the morning, Mr Giffard was sent for to the wife of a printer, near White Fryars; she had been seized," to use his own words, "about an hour before with a violent flooding, and when I came, I found she had lost a large quantity of blood; and I was told she was in about the seventh month of her reckoning. Upon touching, I found one arm of the child slipped out beyond the os internum, as also a large part of the placenta; wherefore, I gave it as my opinion, that she ought to be immediately delivered,—letting her husband and others know the great danger she was in. As it was entirely left to my conduct, I immediately passed up my hand, well greased, into the vagina, and so on by the side of the shoulder into the uterus, where I met with the remaining part of the placenta, wholly separated from the uterus. I now passed my hand between the placenta and the body of the child, and soon met with one foot, which I drew out beyond the labia pudendi, and then taking hold of it with a soft cloth, with a little difficulty, I brought out the hip and the body almost to the shoulders, when, finding it stopped at the head, I passed in my hand, and brought down one arm, the other not being slipped up again from its first falling down. I then endeavoured to draw out the head, but it would not readily follow; whereupon I passed up one finger into the child's mouth, and strove, by pressing upon the lower jaw, to bring the face forwards, whilst at the same time I pulled above at the shoulders; but as it was closely locked between the bones that form the lower part of the pelvis, I had no small trouble in bringing it out; however, at last, I finished the delivery by bringing away the placenta, which, being before loosened from every part of the uterus, readily followed. I was then in hopes we had surmounted our greatest diffi-

culties, and that the flooding would have stopped; but, to my great surprise, she continued still draining. I therefore again gently passed up my hand, believing that either some part of the placenta was torn off and left, or else that some coagulated blood kept the womb distended; but I could not meet with any part of the placenta, or any clots of blood. I then ordered cloths dipped in vinegar to be applied close to the parts, and what else I thought necessary, yet, notwithstanding all my endeavours to save her, *amisit cum sanguine vitam*."—*See Table, No.* 137.

Case of unavoidable hemorrhage, with apparent hydrothorax and cardiac disease; death speedily after the expulsion of the placenta; living child subsequently extracted.—The case occurred to Dr Fraser of Aberdeen. It was the patient's sixth pregnancy. Labour came on at the eighth month. Very moderate hemorrhage had been going on for two hours, when the placenta became very extensively detached by one uterine contraction, and the mass of it was found lying in the vagina. "The accompanying hemorrhage," Dr Fraser states, "was great, and, without convulsions, she expired in two minutes." A few minutes afterwards, Dr Fraser passed his hand into the uterus, and extracted the child alive. "A *post-mortem* examination," Dr Fraser adds, "was not allowed, but from a combination of marked symptoms, I have a strong conviction that she laboured under hydrothorax, depending on a diseased state of the heart."—*See Case No.* 49 *in the Table.*

Case of fatal detachment of the placenta.—In speaking of the complete separation of the placenta in unavoidable hemorrhage, Dr Collins states, "Dr Clarke informed me, that he had met with one case of total separation; the patient was dying before he reached the house."[1] By a private note from Dr Collins, I am informed that he knows no more of the case than what is stated in the above sentence, and that in consequence of Dr Clarke's death, it is now impossible to obtain more details.—*See Case* 104 *in the Table.*

GENERAL REMARKS ON THE TEN FATAL CASES.

In all the first seven of the preceding fatal cases, the separation of the placenta, or the degree of hemorrhage after its detachment, had evidently little or no connection with the death of the mothers. In the first case, (Mr Hay's), the blood lost during the hour that elapsed between the expulsion of the placenta and birth of the child, is averred to have been "very little;" in the second case, (Walter's), not more than two ounces of blood escaped in all during the whole labour; in the third case, (Dr Merriman's), the hemorrhage after the expulsion of the

[1] Practical Treatise on Midwifery, p. 91.

placenta was, in all probability, inconsiderable, or altogether arrested, as it was not deemed necessary to expedite delivery, though the placenta was thrown off several hours before the infant was born; in the fourth case, the narrator (Mercier) distinctly attests, that the whole loss of blood was not greater than with an ordinary labour; in the fifth case, there was, to use Dr Ramsbotham's own expression, "no flooding" after the placenta was detached, and there had been none for some time previously; in the sixth case, (Mr Wood's), the hemorrhage completely ceased after the total separation of the placenta; and in the seventh case, (Mr Tindal's), the same fact was observed. In these two last cases, though both patients sunk principally from the effects of hemorrhage, yet in both of them that hemorrhage had occurred antecedently to the detachment of the placenta; the mischief, in so far as the flooding was concerned, was done before that detachment took place; in neither of them did the peculiarity of the complete separation of the placenta occur until the case was already so far hopeless, from the antecedent discharge, and, indeed, so far from being injurious, the separation of the placental mass would, on the very contrary, by its immediately arresting flooding, seem to have been salutary, though unfortunately in each too late to save.

On the other hand, there occurred, in the course of these seven fatal cases, circumstances and complications amply adequate to account for the deaths of the mothers, quite independently of the separation of the placenta, or of any flooding or other possible accident connected with that separation. In Mr Hay's case, the patient's death was evidently the result of the strong excitement and injuries to which she was subjected on the ninth day after delivery. Walter, as we have seen, attributes the attack of the disease, ("purpura alba," or miliary fever), of which his patient died, to her own indiscretion. In Dr Merriman's and Mercier's cases, puerperal fever and peritonitis were the causes of the fatal issue,—a disease that too often occurs independently of any morbid complication whatever, during labour. Mercier's patient had, though there was no accompanying flooding, become so exhausted, and the expulsive powers so inefficient, by the time he saw her, that instrumental delivery was deemed necessary. In Dr Ramsbotham's case, (an arm presentation) the child was delivered by evisceration of the chest and abdomen, an operation in itself sufficiently dangerous, and never employed except when turning even is impossible; and, in the present instance, it had its difficulties much enhanced by the rigid state of the os uteri. Lastly, in Mr Tindal's and Mr Wood's cases, extraction of the infants by version was had recourse to, at a time when the mothers were already greatly exhausted, and little able to withstand the additional shock of such an operation. Thus in two of the fatal cases, (Mr Hay's, and Dr Merriman's), the delivery was effected by the natural pains; and the cause of death in each was apparently independent of any

circumstances connected with the detachment of the placenta. In five of the cases, (Walter's, Mercier's, Dr Ramsbotham's, Mr Tindal's, and Mr Wood's), the delivery was accomplished by such operative means as are in themselves always more or less perilous to the life of the mother, particularly when, as in some of them, she had already become prostrated and exhausted by the time they were adopted.

For the above reasons we are, we believe, quite entitled to reject, in regard to the first seven fatal cases, the idea of the death of the mothers being caused by the total separation of the placenta, or by its mediate or immediate consequences.

If this be granted,—and we subtract on this ground the first seven fatal cases,—we have only, out of 141 deliveries, three maternal deaths left, which can be at all ascribable, directly or indirectly, to the complete detachment of the placenta, and its results. This would give a mortality of only one in about every forty-seven mothers from this complication during labour, in placental presentations; a proportion which, it must be confessed, is surprisingly small.

But it seems, indeed, even more than doubtful, whether all the three remaining fatal cases (Mr Giffard's, Dr Fraser's, and Dr Clarke's) should be allowed to have been instances in which the death of the mothers was attributable simply to complete separation of the placenta, and its effects.

Mr Giffard's patient died, if we may judge from his own account, of post-partum hemorrhage,—a complication which is known to be a special source of danger to the mother after placental presentations, under all modes of management.[1] The hemorrhage was here probably the result of the injury and laceration of the vascular and imperfectly dilated neck of the uterus, in consequence of the force employed in the operation of the extraction of the shoulders and head of the infant. This view would seem to be so far corroborated by the fact, that the post-partum discharge was not connected with the presence of any clots of blood in the uterus, and hence, was not the effect of atony of the body, or fundus of the organ. At all events, the fatal hemorrhage was not, in Mr Giffard's patient, in any apparent way, dependant upon the *previous* complete detachment of the placenta during the labour; and hence, we might probably be entitled to remove this case also, like the preceding seven, from the list of those in which the death of the mother could be attributed to the contingent separation and expulsion of the placenta.

In Dr Fraser's case, the chest affection may have had a princi-

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[1] See on this topic Dr Hamilton's Practical Observations, second edition, p. 329. In speaking of placenta prævia, he states, in reference to flooding from the ruptured vessels of the neck of the uterus, (the body and fundus of the organ being contracted) that for many years past he has been led to "dread this danger in every case where he has been obliged to force delivery in consequence of uterine hemorrhage."

pal share in the sudden demise of the patient,—the presence of heart disease (supposing such existed) predisposing, as is well known, the subjects of it to be greatly, and, in some instances, fatally affected by any rapid losses of blood, and occasionally leading, as I have known in two instances, to sudden death, from the shock of the delivery, when the labour was in other respects quite natural. I would add, that the details which I have obtained through Dr Fraser's kindness, are not by any means perfectly decisive, as to the whole placenta being completely detached in this instance. The same remark may apply to the other remaining case of Dr Clarke; if we may judge from the little information that we do possess in reference to it, and contrasting it with the results ascertained in other well observed instances. The account of Dr Clarke's patient is so brief and defective, as to furnish us with no data whatever as to the extent and nature of the accompanying hemorrhage, the existence or non-existence of any other complication, the delivery or not of the child, nor the immediate cause of the fatal event to the mother.

SUMMARY OF RESULTS.

Our inquiry, as far as we have hitherto proceeded, seems legitimately to admit of the following deductions.

1. The complete separation and expulsion of the placenta before the child, in cases of unavoidable hemorrhage, is not so rare an occurrence as accoucheurs appear generally to believe.

2. It is not by any means so serious and dangerous a complication as might *a priori* be supposed.

3. In nineteen out of twenty cases in which it has happened, the attendant hemorrhage has either been at once altogether arrested, or it has become so much diminished as not to be afterwards alarming.

4. The presence or absence of flooding after the complete separation of the placenta, does not seem in any degree to be regulated by the duration of time intervening between the detachment of the placenta and the birth of the child.

5. In ten out of one hundred and forty-one cases, or in one out of fourteen, the mother died after the complete expulsion or extraction of the placenta before the child.

6. In seven or eight out of these ten casualties, the death of the mother seemed to have no connection with the complete detachment of the placenta, or with results arising directly from it, and if we do admit the three remaining cases, (which are doubtful), as leading by this occurrence to a fatal termination, they would still only constitute a mortality from this complication, of three in one hundred and forty-one, or of about one in forty-seven cases.

7. On the other hand, under the present established rules of practice, one hundred and thirty-three mothers died in three hundred and ninety-nine placental presentations, or about one in three.